

Serial No. 10/701,761

In the Specification:

Please amend the specification by deleting paragraph [014] and replacing with the new paragraph [014] as follows:

[014] After removal of all the air in the chamber 12, valve 58 is opened and ambient air is released into the chamber through nozzle 80 to produce a jet 78, which impinges on the surface of part 18. Because of the reduced atmosphere in the chamber, the first burst of air impinging on the solid surface spreads over a surface that is free of any fluid. Since no fluid exists near the surface, there is no boundary layer of fluid surrounding any particles or foreign residue on the surface and the leading edge of the spreading air will contact the particle at velocities well above those normally encountered in fully developed atmospheric boundary layers which dampen any fluid motion or eddies attempting to reach micron size particles on the solid surface. Because there is no boundary yet developed, due to the reduced pressure within the chamber 12, the spreading jet will impact the particles on the surface as well as produce a higher drag on the particles due to an undeveloped boundary layer. If valve 58 is left open, as the leading edge of air passes, the particles will become submerged within a boundary layer with the smaller particles eventually becoming submerged in a viscous boundary layer as the boundary layer flow develops. It is therefore desirable to cycle valve 58 open and closed in order to alternate between reducing the atmosphere surrounding the particles and jetting a fluid, such as air, past the particles to impinge and remove them from the surface. Valve 72 can be left opened and vacuum pump 38 can be left on thus also removing any particles left suspended in the chamber 12, which may have been removed from the solid surface. These particles are so small that they generally are suspended in the air stream exiting the chamber 12 through the vacuum pump 38.

Serial No. 10/701,761

Replacement Paragraph [014] with markings to show the changes made.

[014] After removal of all the air in the chamber 12, valve 58 is opened and ambient air is released into the chamber through nozzle 80 to produce a jet 78, which impinges on the surface of part 18. Because of the reduced atmosphere in the chamber, the first burst of air impinging on the solid surface spreads over a surface that is free of any fluid. Since no fluid exists near the surface, there is no boundary layer of fluid surrounding any particles or foreign residue on the surface and the leading edge of the spreading air will contact the particle at velocities well above those normally encountered in fully developed atmospheric boundary layers which dampen any fluid motion or eddies attempting to reach micron size particles on the solid surface. Because there is no boundary yet developed, due to the reduced pressure within the chamber 12, the spreading jet will impact the particles on the surface as well as produce a higher drag on the particles due to an undeveloped boundary layer. If valve ~~586~~ 58 is left open, as the leading edge of air passes, the particles will become submerged within a boundary layer with the smaller particles eventually becoming submerged in a viscous boundary layer as the boundary layer flow develops. It is therefore desirable to cycle valve 58 open and closed in order to alternate between reducing the atmosphere surrounding the particles and jetting a fluid, such as air, past the particles to impinge and remove them from the surface. Valve 72 can be left opened and vacuum pump 38 can be left on thus also removing any particles left suspended in the chamber 12, which may have been removed from the solid surface. These particles are so small that they generally are suspended in the air stream exiting the chamber 12 through the vacuum pump 38.